# Speaker Biographies 2016

## Additive Manufacturing & 3D Printing

**Rob Gorham**
*National Center for Defense Manufacturing and Machining (NCDMM), America Makes*

Rob Gorham is the Director of Operations for America Makes, the national additive manufacturing innovation institute at the National Center for Defense Manufacturing and Machining. Previously he served as the Deputy Director of Technology Development where he was responsible for development of the America Makes roadmap and technology investment strategy. Prior to joining America Makes, he was Senior Manager of the Manufacturing Exploration and Development group at Lockheed Martin Aeronautics - Advanced Development Programs, also known as *The Skunk Works*. In this position, Gorham was responsible for leading the transition-focused development and application of affordable manufacturing technologies for Lockheed Martin. He holds a B.S. degree in Aerospace Engineering from Texas A&M University and an M.S. degree in Engineering Management from Southern Methodist University.

**Rajasundar Chandran**
*École Polytechnique Fédérale de Lausanne (EPFL)*

Rajasundar Chandran is currently a doctoral student in the Composite and Polymer Technology Laboratory (LTC) at EPFL in Switzerland. He graduated with a Master's degree in Material Science from École Centrale Paris in France and a Bachelor's degree with honors in Polymer Technology from Amrita School of Engineering in India. Chandran works on innovative manufacturing technologies for novel thermoplastic and thermoplastic elastomer composite materials. His research interests include additive manufacturing, sustainable composites, and rehabilitation technology. His Ph.D. focuses on the use of hybrid thermoplastic processing techniques to develop prosthetic and orthotic devices especially for developing nations. His current research involves low-pressure processing techniques for thermoplastic composites where he is studying their fusion bonding mechanisms and evaluating their mechanical performance. Apart from his core research, Chandran is the EPFL Coordinator for scientific rural development internships in Indian villages through the Amrita Live-in-Lab Programme, and he also is an active volunteer at Embracing the World (ETW), an NGO working in Europe and India. He enjoys instrumental music and hiking in his spare time.

**Douglas Smith**
*Baylor University*

Douglas Smith is an Associate Professor of Mechanical Engineering at Baylor University. His research includes polymer composites, additive manufacturing, finite-element analysis, and optimization.

**Ron Rogers**
*e-Xstream engineering*

Ron Rogers graduated in 2007 as a Mechanical Engineer from Michigan State University. After graduation, he worked as Sales Engineer at NTN Bearing Corp. of America, then as an Application Engineer, and later still as a Business Development Engineer at Romax. He joined e-Xstream engineering last year as Business Development Manager.

**Blake Heller**
*Baylor University*

A native Texan, Blake Heller is a doctoral candidate at Baylor University in Waco, Texas, U.S.A. He earned a B.S. degree in Engineering Science from the University of Mary Hardin-Baylor. He then joined Baylor University where he earned a second B.S. and an M.S. degree.

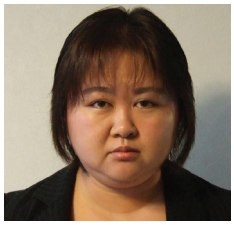
## Advances in Reinforcement Technologies

**Hiroyuki Hamada**
*Kyoto Institute of Technology*

Professor Hiroyuki Hamada graduated from Doshisha University in Japan with a doctorate in Mechanical Engineering in 1985. He began his professional career at Kyoto Institute of Technology in 1986 and was promoted to Professor in 1998. Since 2015 Hamada has been a Professor in the Future-Applied Conventional Technology Center. His research interests include composite materials, physical properties, polymer and textile materials, structure and functional materials, and mechanics of materials. Hamada has numerous publications and connections worldwide.

**Gleb Meirson**
*Fraunhofer Project Centre for Composites Research*

Gleb Meirson is currently a doctoral student at Western University (formerly University of Western Ontario) in the Department of Chemical and Biochemical Engineering where his thesis subject is In Mold Flow of Fibers in Compression Molding Process. He has been at Western since 2012. From 2003-2010, he earned his B.S. degree (*cum laude*) and M.S. degree in Chemical Engineering at Technion-Israel Institute of Technology where his Master's thesis topic was Manufacturing of Polymeric Membrane by Melt Extrusion. Meirson's work experience includes time as a Research Assistant in the Rabin Water Desalination Institute (2006-2007), as a Process Engineer at LUDAN (2010), as well as a Chemical / Plastic Engineer at Oplon Pure Science (2010-2011). He was a 2012 winner of the Ontario Trillium Scholarship for academic achievement and has one paper accepted and one currently in review for publication in *Polymer Composites* journal.



**Asami Nakai**
*Gifu University*

Dr. Asami Nakai graduated from the Faculty of Textile Science at Kyoto Institute of Technology (KIT) in Japan in 1994. She received her Master's degree in Engineering from the Department of Polymer Science and Engineering at KIT in 1996, and her doctorate in Engineering from the University of Tokyo in 1999. From 2000 to 2006, she was a Research Associate at KIT and from 2006 to 2012, she was an Associate Professor at KIT. Since 2012, Nakai has been a Professor in the Department of Mechanical Engineering, Faculty of Engineering, at Gifu University.

# Advances in Thermoplastic Composites

**Ji Hwan Choi**
*Hanwha Advanced Material Co.*

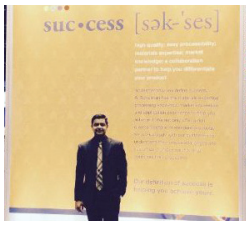
Mr. Ji Hwan Choi is a Senior Engineer with Hanwha Advanced Material Co., where he is part of the Advanced Development team. From 2008-2015, Choi has been involved in design and analysis for bumper beams. And from 2015 until the present, he has been working in research and development for a new application.

**Queein Månson**
*EELCEE Ltd.*

Mrs. Queein Chang-Manson is currently CEO of EELCEE Ltd. of South Korea, a company that develops and produces innovative material forms and products for the manufacture of cost-effective thermoplastic composites. Previously she was Business Development Manager of EELCEE Switzerland from 2009-2014. Since 2014 she has also been CEO and Co-Founder of QEESTAR Co. Ltd., which is a joint venture between Robostar Co. Ltd. and EELCEE Ltd. and merges global leadership in automation and composites. Chang-Manson is presently overseeing an expansion of EELCEE into West Lafayette, Indiana, USA. She holds a Chemistry degree from Michigan State University.

**Tomasz Czarnecki**
*EconCore N.V.*

Tomasz Czarnecki graduated in 2002 from the Technical University of Czestochowa, Poland with a degree in Materials Engineering. From 2003 to 2006 he was a researcher at the Composites Materials Group at the K.U. Leuven in Belgium, where his focus was on lightweight sandwich structures and natural fiber-reinforced composites. While there, he was a member of the development team for the first composite suitcase, the Cosmolite, launched by Samsonite in 2005. In 2006 Czarnecki joined EconCore, where initially he was responsible for Materials and Applications Development. Throughout his career Czarnecki has been involved with developing lightweight material solutions for the packaging, automotive, transportation, and building & construction industries, most often working with leaders of the various market segments. He played an active role in starting up EconCore's daughter company, ThermHex Waben GmbH, which today is a leading manufacturer of PP honeycomb cores for the composites industry. In 2011 he became Technology Manager at EconCore and joined the management team. Today Czarnecki combines technical and commercial roles at the company and leads EconCore's licensing activities.




**Tanmay Pathak**
*A. Schulman*

Dr. Tanmay J. Pathak is a chemical engineer with a polymer science background and expertise in synthesis, processability, and rheological characterization of polymer blends and composites. From 2014-2015, he was an R&D Engineer at A. Schulman, Inc., where he was involved with engineering plastics technology. He currently manages the technology side of A. Schulman's Polyolefins business in the Americas, where he helps develop lightweight composites for automotive and non-automotive applications. From 2011-2013, he was a Product Development Engineer at Rhetech Inc., a Hexpol Company, where he was involved in developing several natural fiber

formulations with polypropylene (PP) as well as process technology and customer qualification of the company's Rhevision line of products. There he also developed mineral-filled olefin composites and TPOs for automotive applications. From 2010-2011, he was a Development Engineer at Inteva Products LLC where he worked in R&D on slush TPE materials used in automotive interior skins. He established an in-house benchmarking level for thermoformable TPE and TPO materials using extensional rheology. From 2004-2010, Pathak was a Research Assistant at Michigan State University working on synthesizing different PP layered silicate nanocomposites and investigating structure property relationships by understanding the effect of surfactant chemistries and filler loadings on melt strength and strain hardening properties of these nanocomposites. He holds a Ph.D. degree in Chemical Engineering from Michigan State University (2011) and a B.S. degree in Chemical Engineering from Mumbai University in India. He is a member of the Society of Plastics Engineers, the American Institute of Chemical Engineers, and the Indian Institute of Chemical Engineers. He holds one U.S. patent.

**Ruomiao "Grace" Wang**
*Hanwha Azdel*

Dr. Ruomiao Wang received her Ph.D. in Materials Science & Engineering from Wayne State University in 2007. She is currently a New Product Technology Developer at Hanwha Azdel. Over the past few years, she has worked on different product development projects and also broader and more fundamental platform research for the company.

**Hironori Nishida**
*Doshisha University*

Hironori Nishida received his Polymer Chemistry degree from the Ehime University of Engineering and Applied Chemistry in 2008. While there, he studied new polymer reactions including Thermally-Induced Polymerization and Copolymerization with Styrene of Diazoketones in the Presence of Benzoquinone. In 2009, he joined the Western Region Industrial Research Center, which is one of the Hiroshima Prefecture's technology research institutes. In 2010 he joined the Carbon Fiber Reinforced Thermoplastics (CFRTP) project where his main interest is working toward developing a new molding method. Nishida currently is working on a Ph.D. at the Doshisha University Graduate School of Science and Engineering with a focus on the Effect of Molecular Weight on the Mechanical Properties of Carbon Fiber-Thermoplastic Epoxy Composites.

**Christoph Kuhn**
*Volkswagen AG*
*2016 SPE ACCE Best Paper Winner*

Christoph Kuhn holds a Master's degree in Mechanical Engineering from the University of Wisconsin-Madison and a second Master's in Plastics and Textile Technology from RWTH Aachen University. Since 2014, he has been pursuing his doctorate in the industrial PhD program at Volkswagen Group Research at the Friedrich-Alexander University Erlangen-Nuremberg. His work at Volkswagen is in the field of long fiber-reinforced plastics with focus on component design, process simulation, and component analysis.

**Russell Goering**
*Addcomp North America Inc.*

Dr. Russell Goering is a Product Development Manager at Addcomp North America Inc. where he helps the company develop functional masterbatches and additives for plastics. Prior to Addcomp, Goering spent 10 years working with polymers in the areas of solvent-cast films and conductive polymers. He holds a Ph.D. in Chemical Engineering from University of Colorado where his thesis research was on olefin separations using facilitated-transport membranes.

**Ying Fan**
*Western University*
*2016 SPE ACCE Best Paper Winner*

Dr. Ying Fan is currently a Research Engineer in the Department of Mechanical Engineering at Western University in London, Ontario, Canada. Previously, she was a Postdoctoral Associate in the Department of Mechanical & Materials Engineering at Western University working under Dr. J.T. Wood from 2013-2015. Before that, she was an Associate Professor at Hebei University of Technology (Tianjin, China) from 2009-2013, an Assistant General Manager at Yingzida Materials Co. Ltd. (Hangzhou, China) in 2009, and an Assistant Professor at Dalian Jiaotong University (Dalian, China) from 1997-2002. She earned a doctorate in Mechanical Engineering (Polymer Engineering) from Western University in 2008 and has published more than 30 peer-reviewed journal papers.

# Speaker Biographies 2016

### Warden Schijve
*SABIC*

Warden Schijve is currently Chief Scientist - Composites at SABIC where he leads application development for continuous-fiber thermoplastic composites. He has been at the company for 4 years and previously was Group Leader - Application Development for long, discontinuous-fiber materials. Before that, he spent 10 years at DSM, starting as a Design Engineer and later working as Project Leader - Material, Process, & Design Development for the company's STAMAX LFT-PP and other materials. Earlier in his career he spent 11 years at Fokker Aircraft, where he began with conceptual design of thermoset composites and later became Project Leader - Thermoplastic Composites. He began his career spending a year in the laboratory at TNO Prins Maurits where he developed simulation methods to predict explosive blast damage in ships. He earned his degree in Aerospace Technology from Delft University.

### Recep Yaldiz
*SABIC*

Recep Yaldiz currently holds the position of Application Development – Composites for SABIC, where his focus is on development of applications for continuous fiber-reinforced thermoplastic composites for automotive, mass transportation, and consumer electronics. He has spent 8 years working in different functions at the company. He is an aerospace engineer by background who graduated from Delft University of Technology in The Netherlands in 2003 where his specialization was aerospace structures, computational mechanics, and composite materials and production technologies. After spending a year working at Airbus in Germany on the development of the *A340* and *A380* aircraft, he moved to DSM Research and focused on development of short-fiber composite applications for automotive and consumer goods for the next 4 years.

### Bert Rietman
*SABIC*

Bert Rietman holds a Ph.D. in Mechanical Engineering from the University of Twente in the Netherlands. He started his professional career with INPRO in Berlin where he worked on the development of numerical methods for optimizing forming and joining processes with focus on the automotive industry. While setting up a research program for polymer-metal hybrids, he became interested in thermoplastic composites, after which he decided to return to Twente to become part of the composites group there. He also joined TPRC, the thermoplastic composites research center, where he was, among other things, responsible for contract research. Since 2015 Rietman has been a Staff Scientist with the composites team at SABIC in the Netherlands.

### Mark Cieslinski
*BASF Corp.*

Dr. Mark Cieslinski joined BASF in 2015 as a Research Scientist and member of the Structural Materials Processing group after finishing his doctorate in Chemical Engineering at Virginia Tech under Prof. Don Baird. His Ph.D. work focused on using transient rheology as a tool to develop fiber orientation models to simulate long fiber orientation in injection molded composites. He continues to perform research on the processing of fiber reinforced thermoplastics at BASF.

### John Dorgan
*Colorado School of Mines*

John R. Dorgan is currently Professor of Chemical Engineering at the Colorado School of Mines (CSM). He received his B.S. degree in Chemical Engineering from the University of Massachusetts at Amherst in 1986 and his Ph.D., also in Chemical Engineering, from the University of California at Berkeley in 1991. Subsequently, he completed postdoctoral studies at the Max Planck Institute for Polymer Research in Mainz, Germany. His group focuses on fundamental understanding that can enable greater sustainability for the plastics and composites industries. He has served as President of the Bioenvironmental Polymer Society, as a Director of the Colorado Center for Biorefining and Biofuels, and as the Faculty Representative on the Board of Trustees at CSM. Presently, he holds a joint appointment at the U.S. Department of Energy's National Renewable Energy Laboratory where he is engaged in projects on renewable plastics and lightweight composites for energy applications.

### Hiroyuki Hamada
*Kyoto Institute of Technology*

Professor Hiroyuki Hamada graduated from Doshisha University in Japan with a doctorate in Mechanical Engineering in 1985. He began his professional career at Kyoto Institute of Technology in 1986 and was promoted to Professor in 1998. Since 2015 Hamada has been a Professor in the Future-Applied Conventional Technology Center. His research interests include composite materials, physical properties, polymer and textile materials, structure and functional materials, and mechanics of materials. Hamada has numerous publications and connections worldwide.

# Advances in Thermoset Composites

**Gleb Meirson**
*Fraunhofer Project Centre for Composites Research*

Gleb Meirson is currently a doctoral student at Western University (formerly University of Western Ontario) in the Department of Chemical and Biochemical Engineering where his thesis subject is In Mold Flow of Fibers in Compression Molding Process. He has been at Western since 2012. From 2003-2010, he earned his B.S. degree (*cum laude*) and M.S. degree in Chemical Engineering at Technion-Israel Institute of Technology where his Master's thesis topic was Manufacturing of Polymeric Membrane by Melt Extrusion. Meirson's work experience includes time as a Research Assistant in the Rabin Water Desalination Institute (2006-2007), as a Process Engineer at LUDAN (2010), as well as a Chemical / Plastic Engineer at Oplon Pure Science (2010-2011). He was a 2012 winner of the Ontario Trillium Scholarship for academic achievement and has one paper accepted and one currently in review for publication in *Polymer Composites* journal.

**Peter Dijkink**
*Alzchem AG*

Peter Dijkink earned a Bachelor's degree in Chemical Engineering from Technical Highschool Hilversum in the Netherlands in 1986. He joined DSM Composite Resins in the Netherlands that same year and worked as an Application Development Engineer at the company until 2001. From there he moved to Synres-Almoco and became Technical Service and Quality Manager until 2008. That year he returned to DSM Composite Resins as Research Manager - Automotive. Since 2012, he has been Application Development Manager at AlzChem AG in Germany.

**Sigrid ter Heide**
*Hexion Inc.*

Sigrid ter Heide is Transportation Market Development Manager for the Epoxy, Phenolic and Coating Resins division at Hexion. She joined the company in 2007 and worked in global marketing roles with focus on the coatings, rail, and automotive composites industry. She earned a Master's degree in Chemical Engineering Science in 1992 at Twente University in the Netherlands.

**Husam Rasoul**
*Ashland Inc.*

Dr. Husam Rasoul is currently a Research Fellow at Ashland Inc., a position he has held for the past 17 years. Previously, he was a Research Associate at Johnson Polymer for 4 years, and before that he was a Senior Research Scientist at S.C. Johnson for 10 years. Rasoul also worked for 10 years as a Research Chemist at Celanese Research Co. He holds a Ph.D. in Organic / Polymer Chemistry from the University of Arizona.

**Michael Sumner**
*Ashland Inc.*

Dr. Michael J. Sumner is a Technical Group Leader in the Composite Polymers-Global Technology organization of Ashland Performance Materials, a division of Ashland Inc. He received his Ph.D. in Organic Polymer Synthesis from Virginia Tech in 2003 and joined Ashland that same year. His work experience includes management of chemists and technicians and he has considerable experience designing with SMC and gelcoat. He also is responsible for the development of Ashland's newest low-density SMC, Arotran 771.

**Atieh Motaghi**
*Western University*

Atieh Motaghi is a doctoral student in Chemical Engineering at Western University where she is working on the direct-sheet molding compound (D-SMC) process. She holds a B.S. degree from Amirkabir University and an M.S. degree from Tehran University — both in Polymer Engineering.

**Paul Rettinger**
*Ashland Inc.*

Paul A. Rettinger is Technology Manager, Thermosets – Americas for Chromaflo Technologies Corp. Previously he was Quality Assurance Manager at the company where he was responsible for quality and operations support functions in North America. Prior to this, he was Quality Assurance Supervisor for Coatings at Plasticolors, Inc., and before that he was a staff Research and Product Development Scientist for Plasticolors for more than a decade. Throughout his career, Rettinger has served on the scientific staffs of several large and small corporations, and is an innovator of novel composite and coatings technologies. Examples of his work can be found in such applications as tactile plates and walkways at highway intersections and rail stations, safety composite exterior hand rails, and numerous exterior unpainted composite materials in transportation applications. As the author at least 9 technical publications relating to composites, Rettinger takes particular interest

in developing novel composites that can replace traditional and older, painted materials (e.g. painted steel) while improving longevity and reducing time, weight, and cost to the consumer. Ultimately, it is his goal to have the entire world made of highly durable, pigmented, unpainted composite.

**Lora Mason**
*Ashland Inc.*

Lora Mason is a 2001 graduate of Otterbein University and holds a B.S. degree in Chemistry. She started working for Ashland Inc. in 1996 as a co-op in the Analytical group and has since moved through various positions. For the last 13 years, she's been a Scientist with the Composites Division of Ashland Performance Materials.

**Mayur Shah**
*Continental Structural Plastics*

Mayur Shah is Executive Director, Technical Services at Continental Structural Plastics (CSP) where he oversees formulation and compounding processes for the company's various composite formulations. He has been with CSP (formerly The Budd Company) since 1973. Shah holds a Master's degree in Chemical Engineering and an M.B.A. degree from the University of Detroit, Mercy.

**Corentin Pasco**
*Warwick Manufacturing Group*

Corentin Pasco is a mechanical engineer with a background in material science. He holds an M.S. degree in Advanced Materials from Cranfield University in the U.K. and a Mechanical Engineering degree at Université Technologique de Compiègne in France. Pasco worked as a Research Assistant at Cranfield University where his investigations were focused on composite manufacturing processes and process simulation. He joined Warwick Manufacturing Group (WMG) at the University of Warwick in the U.K. in 2014 to pursue an Engineering Doctorate (EngD) degree. Working within the Automotive Composites Research Centre (ACRC), his project is sponsored by Aston Martin and focuses on the development of a high-volume composite manufacturing process for body-in-white applications. Pasco's work seeks to build on current continuous carbon fiber molding research in order to develop an innovative forming process with an emphasis on the preforming stage and on establishing a simulation technique to optimize part and tool design.

**Daniel Park**
*Fraunhofer Project Centre for Composites Research*

Daniel Park works at the Fraunhofer Project Centre for Composites Research (FPC) as a Research Engineer. He specializes in sheet molding compound (SMC) technologies and his work focuses on new resins, material systems, and processing technologies related to the SMC and Direct-SMC processes. He holds a B.S. degree in Mechanical & Materials Engineering as well as a M.S. degree in Chemical Engineering from Western University (formerly the University of Western Ontario).

## Bonding, Joining & Finishing

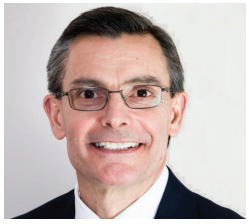
**Andy Stecher**
*Plasmatreat USA, Inc.*

Andy Stecher is President & CEO of Plasmatreat North America, a position he has held since 2010. Previously he was Vice-President Operations at Rational North America, which produces commercial kitchen equipment, and before that he was Chief Financial Officer and General Manager for Harting Inc. for 9 years. He brings nearly 30 years' experience as an executive of manufacturing organizations. Born and raised in Germany, Stecher has lived in the U.S. since 1985. He holds Bachelor's and Master's degrees from DePaul University and Benedictine University, respectively.

**Raymond Sanedrin**
*Krüss USA*

Dr. Raymond Sanedrin has been an Application Manager at Krüss USA in North Carolina since 2013. Previously he was an Adjunct Faculty member at the Harold Washington College for almost 2 years, and before that he was a Senior Research Scientist at NanoInk, Inc. for close to 6 years. In that job he was a project leader on the development of substrate-based diagnostic nanoarray assays, he played an important role in the miniaturization and commercialization of multiplexed NanoElisa assay using proprietary direct-write, dip-pen nanolithography, he collaborated with the engineering team on development of an automation-level apparatus to level 1D pen arrays to print on unleveled surfaces, he established protein-deposition protocols on functionalized substrate surfaces, and worked with

a multidisciplinary team focused on troubleshooting problems across the company's various divisions. Sanedrin received his Ph.D. in Nanotechnology, Nanobiotechnology, and Surface Chemistry in 2007 from Northwestern University. He also holds an M.S. degree in Analytical Chemistry from California State University-Los Angeles, which he received in 2002.



**Michael Barker**
*Ashland Inc.*

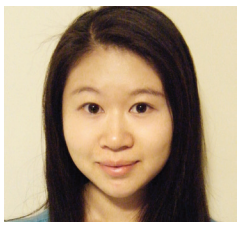
Michael Barker earned his graduate degree in Chemistry from the University of Detroit where he specialized in rubber toughening of thermoplastics. He continued with post-graduate study at the University of Washington in the area of carbon fiber composite technology and protective surface coatings. For over 30 years, he has specialized in structural adhesive and coatings research for the aerospace and automotive industries, holding roles of increasing responsibility at General Motors Research, B.F. Goodrich, and Ashland Inc. He has been with Ashland for 14 years where he has held positions in R&D and research management and is currently a Research Fellow in the Structural Adhesive group. His work at the company has earned him 4 U.S. patents for structural adhesive technology, including 2 in epoxy and 2 in polyurethane chemistries.

**Sarah Stair**
*Baylor University*
*2013-2014 SPE ACCE Scholarship Winner*

Sarah Stair graduated *magna cum laude* with a Bachelor's degree in Mechanical Engineering from Baylor University in 2012, then received a Master's degree in the same discipline from Baylor in 2014. Currently she is working on her doctorate in Mechanical Engineering at the school and anticipating a May 2017 graduation. In Fall 2013 she was awarded an SPE ACCE Graduate Student Scholarship, and in Spring 2014 she was awarded a National Science Foundation Graduate Research Fellowship for her work focused on non-destructive testing of carbon fiber-reinforced laminated composites. She has spent the past three summers as a Graduate Research Intern at Sandia National Laboratories in Albuquerque, New Mexico.

**Akio Ohtani**
*Kyoto Institute of Technology*

Dr. Akio Ohtani is currently an Associate Professor at the Kyoto Institute of Technology (KIT) where his field of specialization is engineering of textile composite materials and structures, molding of continuous fiber-reinforced thermoplastics (c-FRTP), and design and development of intermediate materials for c-FRTP. He has held this position since April of 2016. Before that, he was a specially approved Associate Professor at Gifu University from 2012-2016. Earlier in his career, Ohtani worked as an Aerospace Project Researcher at the Japan Aerospace Exploration Agency from 2009-2012. He began his career as a Research Fellow at Venture Laboratory at KIT from 2008-2009. Ohtani earned a Bachelor's degree in Engineering in 2000 from the Faculty of Mechanical Engineering at KIT. He then earned a Master's degree in Engineering from the Department of Advanced Fibro-Science at KIT's graduate school in 2002. He then earned his doctorate of Engineering at KIT in the Department of Advanced Fibro -Science in 2008.



**Shan Gao**
*Western University*

Dr. Shan Gao received her Ph.D. in Chemical Engineering this summer and her M. Esc. in the same discipline in 2013 from Western University in Canada. She also earned a B.S. degree in Engineering from China University of Petroleum-Beijing in China in 2011. Gao has worked as a research assistant throughout her education. She worked on petrochemical engineering projects as an undergraduate from 2009-2010, and as a graduate student, she worked on a study of the micro-flow structure of circulating fluidized beds from 2012-2013 and then on a developing powder coating application methods from 2013 until the present. She also has 2 publications in peer-reviewed journals.

# Enabling Technologies

**Javier Acosta**
*Fagor Arrasate*

Javier Acosta has been a Composites R&D Project Manager covering the automotive sector at Fagor Arrasate since 2013. Previously he worked in the aerospace and aeronautical sector as an Engineer where he was involved in the automated production of wings for airplanes and blades for wind turbines. He holds an Industrial Engineering degree from Mondragon University in Spain.

**Martino Lamacchia**
*Cannon USA*

Martino Lamacchia was born in Milano, Italy and holds an M.S. degree in Mechanical Engineering from Milano Politecnico University. He joined Cannon in 2011 and is currently working in Cannon's Afros Division as Product Manager – Composites. He manages the team that follows Cannon Afros products and solutions for composites manufacturing in the automotive and wind power industries globally.

**Scott Blake**
*Assembly Guidance Systems, Inc.*

Scott Blake is the Founder and President of Assembly Guidance Systems of Chelmsford, Massachusetts. There he has developed a 3D laser display for aerospace, automotive, Formula 1 racing, paint masking, welding, and other manual manufacturing applications. He has integrated laser projection with cutters, metrology, vision systems, tape layers, data-collection systems, and other quality monitoring systems. In 2000 he was presented with a National Tibbetts award for SBIR work developing the composites manufacturing process control system (CMPCS). Blake holds 2 patents in composites process control and a third is pending.

**Neil Reynolds**
*Warwick Manufacturing Group*

Neil Reynolds is a Senior Research Fellow within Warwick Manufacturing Group's (WMG's) Structural Composites research group. He joined the organization after graduating from Cardiff University with a degree in Astrophysics. During his time at WMG, Reynolds has worked on many government- and industry-funded collaborative projects whose principal focus has been on advanced materials for lightweighting in high-volume automotive applications. His particular research interests are processing characterization, application of thermoplastic composites for lightweight automotive structures, and mechanical characterization of structural materials. He currently is working on several U.K.-funded projects and an E.U.-funded collaborative research project. He also is studying part time for a Ph.D. related to manufacturing process developments for aligned fiber-reinforced thermoplastic composites.

**Matthias Graf**
*Dieffenbacher GmbH*

Matthias Graf is currently the Director of Technology and Business Development of the Composite Business Unit at Dieffenbacher GmbH in Germany, a position he has held since 2015. From 2013 to 2015 he was Managing Director and from 2008 until 2010, he was Technical Director of the Forming business unit. Before that, from 2004 to 2008, he was Product Manager for High-Pressure Systems at Dieffenbacher, and from 1999 to 2004, he was Head of R&D for the company's Wood business unit. Graf gained international experience during a 2-year assignment in the U.S. at one of the company's North American operation in Atlanta, Georgia as Engineering Manager from 1997 through 1998. He began his now 25-year career at Dieffenbacher as a Design and Development Engineer. He holds a degree in Mechanical Engineering from the Karlsruhe University of Applied Science and an M.B.A. degree from University of Southern Queensland (Australia) through the European Study Center.

**Stephen Greydanus**
*Hexion Inc.*

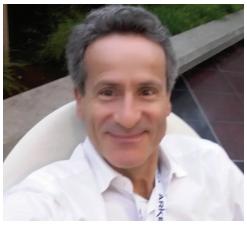
Stephen Greydanus is a Senior Application Development Engineer in the Epoxies, Phenolics, & Coatings Division of Hexion Inc. He is an industrial designer with extensive experience in the design and manufacture of lightweight composite structures and interior components. In his current role, he oversees Hexion's development activities at the Fraunhofer Project Centre for Composites Research in London, Ontario, Canada. Greydanus joined the company in 2013 after 18 years working in a variety of roles including R&D Lead - Composites and Engineering Lead - Interiors at a German aircraft manufacturer, Diamond Aircraft Industries. He has managed activities ranging from design development and testing/certification to design of tooling and assembly systems for several all-composite production aircraft — with particular focus on material and process development for out-of-autoclave structural composite processing.

**Alexander Roch**
*Fraunhofer Institute for Chemical Technology*

Alexander Roch is currently Head of the Thermoplastic Technology Corridor at Fraunhofer Institute for Chemical Technology in Germany. He joined the institute in June 2009 as a Scientific Staff Member and later was Project Director in the Polymer Engineering Department headed by Prof. Frank Henning. In 2014, he was involved in setting up the injection molding technology at the Fraunhofer Project Centre for Composites Research in Canada. Roch studied Mechanical Engineering at the Karlsruhe Institute for Technology (KIT) and graduated as an engineer (Dipl.-Ing.) in 2009 after completing a diploma thesis on local continuous-fiber reinforcement of injection-molded parts. He received his doctorate in the same discipline at KIT in 2015 under Prof. Peter Elsner

**Steve Verschaeve**
*RocTool*

Steve Verschaeve has extensive experience utilizing engineering, managerial, and leadership skills for global leaders within the plastics industry. This includes engineering and management positions in companies involved with the engineering, development, and production of medical devices; consumer products; automotive parts; and specialized tooling. He is particularly effective in business development, process improvements, capital-equipment specification, and the development of strategic relationships -- both nationally and internationally. Verschaeve earned an M.B.A. from the School of Global Management and Leadership at Arizona State University, and a B.S. degree in Plastics Engineering from Ferris State University. Additionally, he is a certified Six Sigma Black Belt with a strong track record of facilitating successful projects at multiple facilities.



**Ottorino Ori**
*Persico SpA*

Ottorino Ori has been active since 1995 in composite design and production for body parts and structural elements used in the automotive industry.

**Klaus Jansen**
*Thomas GmbH + Co. Technik + Innovation KG*

Dr. Klaus Jansen was a Ships Engineer until 1985. He received Master's in Ship Machine Engineering in 1988 and a doctorate in Optical Electronics in 1992. He was Head of Development at TTI until 1998 when he became CEO and a shareholder. In 1997 he had his introduction to pultrusion and since has become a pultrusion expert with more than 40 patents.

**Philipp Rosenberg**
*Fraunhofer Institute for Chemical Technology*

Philipp Rosenberg has worked as a Research Employee at the Fraunhofer Institute for Chemical Technology (ICT) in Germany since January of 2014. He holds a Diploma degree in Mechanical Engineering from Karlsruhe Institute of Technology (KIT) in Germany. Currently he is working on his Ph.D. degree with the research topic of "High-Pressure RTM Technology Development," which is supervised by Prof. Frank Henning. Previously, Rosenberg worked as a Research Employee at the Institute for Vehicle System Technology (FAST) at KIT from 2012-2014. And before starting his doctoral work, Rosenberg worked on his Diploma thesis at BMW AG in Germany characterizing textile preforms.

## Nanocomposites

**Jo Anne Shatkin**
*Vireo Advisors, LLC*

Dr. Jo Anne Shatkin is President of Vireo Advisors, LLC, an advisory firm focused on sustainability strategies for new and nano-technology development and innovation. She is an environmental health scientist and recognized expert in environmental science and policy, human health risk assessment, emerging contaminants policy, and environmental aspects of nanotechnology. She has extensive experience working with entrepreneurs to guide responsible product development and commercialization. Previously, as CEO of CLF Ventures, she worked with early stage and large organizations on new technology introduction strategies, including business planning, environmental impact assessment, and networking for financing. She develops state-of-the-art analyses on behalf of public and private organizations to inform safe and sustainable product development. Since 2005, she has provided leadership on the responsible development of nanotechnology, and on approaches for decision making under uncertainty. She served as an expert to several international committees on nanotechnology safety, including the joint WHO_FAO Expert Panel on Nanotechnology in Food, the Canadian Council of Academies, and the U.S./Russia Bilateral Commission for Science and Technology Nanotechnology Environmental Health and Safety Panel. She serves as Environmental Health & Safety (EHS) Advisor to P3Nano, the U.S. public-private partnership to advance commercialization of nanocellulose. She pioneered the use of life cycle thinking in risk analysis for nanomaterials, collaborating with the U.S. Environmental Protection Agency to develop several case studies that informed EPA's risk analysis, research agenda, and policies for nanomaterials. Additionally, Shatkin developed and uses NANO Life Cycle Risk Analysis to inform safe development strategies for nanomaterials, described in her book, Nanotechnology Health and Environmental Risks 2nd Edition (CRC Press 2012). She founded the Emerging Nanoscale Materials Specialty Group of the international Society for Risk Analysis, where she is a Fellow and served as councilor, and in 2015 received the Outstanding Practitioner Award. She serves on the board of the Center for Environmental Policy at American University and the University of Maine Forest Bioproducts Research Institute, and previously was a Switzer Environmental Fellow. She is leading efforts to develop methods and standards for environmental health and safety for TAPPI and participates in the U.S. Technical Advisory Group to ANSI on EHS Standards Development for nanocellulose. Shatkin received an individually designed doctorate in Environmental Health Science and Policy and her M.A. degree is in Risk Management and Technology Assessment from Clark University, Worcester, Massachusetts. She also holds a B.S. degree in Molecular Biology and Biotechnology from Worcester Polytechnic University.

**Douglas Gardner**
*University of Maine*

Douglas J. Gardner is Professor and Program Leader of Forest Operations, Bioproducts & Bioenergy in the School of Forest Resources at the University of Maine. He also is a member of the Advanced Structures and Composites Center and Forest Bioproducts Research Institute. Gardner's research, teaching, and service activities focus on polymer and interfacial science aspects of wood-polymer composite materials. Additionally, Gardner is involved in research in the areas of adhesion and surface science, cellulose nanocomposites, and extruded wood-plastic composites. He has co-authored over 200 technical publications and 135 research presentations, and holds 5 patents. Gardner is a Fellow and Past-President of the Society of Wood Science and Technology (SWST). Additionally, he is a member of the American Chemical Society and Society of Plastic Engineers. Gardner serves on the editorial advisory board of Reviews of Adhesion and Adhesives. He has been recognized for his work with a 1992 Cahn Award, the

2004-2005 and 2011-2012 G. Peirce and Florence Pitts Weber Outstanding Researcher in Forest Resources Award, the 2007 Director's Outstanding Faculty Award at the AEWC Center at the University of Maine, a 2008 Forest Products Society L.J. Markwardt Wood Engineering Award, and 2010 2nd Place, 2012 3rd Place, and 2013 Honorable Mention George Marra Award of Excellence. He was awarded the SWST Distinguished Service Award in 2014. He appeared in Strathmore's Who's Who 2007-2008. In December 2005 he was a visiting lecturer at Beijing Forestry University, and in June 2006 was a visiting lecturer at BOKU, Vienna, Austria. In March 2015 he was a visiting lecturer at the Slovak Technical University in Zvolen, Slovakia. He was made an Honorary Member of the Union of Wood Processing Manufacturers of the Slovak Republic in 2000. He holds a B.S. degree Forestry (1980) and Certificate of Advanced Study in Pulp and Paper Management (1981) from the University of Maine, and a Ph.D. degree from Mississippi State University (1985).

**Leonardo Simon**
*University of Waterloo*

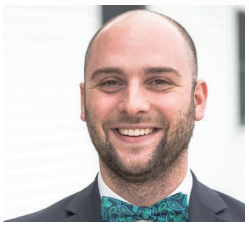
Dr. Leonardo Simon is a Professor in the Chemical Engineering Department at University of Waterloo, in Waterloo, Ontario, Canada. His research expertise is in polymer science and engineering, thermoplastics composites, nanomaterials, sustainable materials, and innovation.

**Daniele Bonacchi**
*Imerys*

Daniele Bonacchi is a chemist and material scientist with more than 15 years of research experience. After graduating from Università di Firenze in Italy, he joined the Advanced Research Center of Colorobbia (CERICOL) and spent 5 years working in nanotechnology for medical and plastic applications. In 2010, he joined Imerys Group (TIMCAL at that time) as a Polymer Application Scientist in Ticino, Switzerland. His main interests are electrically and thermally conductive compounds, nanotechnology, and plastic processing with a special interest in graphene.

**Jacob Anderson**
*PPG*

Jacob Anderson is a Senior Project Research & Development Engineer at the PPG Fiber Glass Science and Technology Center in Shelby, North Carolina, U.S.A. He is a project leader in the Applications Development Group and focuses on the processing and evaluation of thermoplastic composites used in diverse industries.



**Nicholas Kamar**
*Michigan State University*
*2015-2016 ACCE scholarship winner*

Nicholas T. Kamar earned a B.S. degree in Chemistry from Grand Valley State University in 2011. Recently, Kamar successfully defended his doctoral dissertation on "Fracture Behavior of Block Copolymer and Graphene Nanoplatelet Modified Epoxy and Fiber Reinforced/Epoxy Polymer Composites" at Michigan State University (MSU). His Ph.D. work was completed under the guidance of Dr. Lawrence T. Drzal at the Composite Materials and Structures Center in the Department of Chemical Engineering and Materials Science at MSU. That work focused on nano-engineering fiber reinforced/epoxy polymer composites (FRPs) with both block copolymers and graphene nanoplatelets to improve composite fracture and mechanical properties. Kamar has 2 peer-reviewed publications and 2 conference papers. He also has completed a graduate internship at GE Aviation in Evendale, Ohio, where he worked as a Materials Applications Engineer in the Polymer Matrix Composites group. Currently, Kamar works at Continental Structural Plastics as a Materials Development Engineer.

**Alper Kiziltas**
*Ford Motor Co.*
*2012-2013 SPE ACCE Scholarship Winner*

Dr. Alper Kiziltas is a Research Scientist within the Sustainable Biomaterials and Plastic Research group at Ford Motor Co. where his particular interests lie in sustainable materials such as bio-based and recycled resins, natural fiber-reinforced composites, and nanofiller-reinforced foams. He is a graduate of the University of Maine where he received his Master's and Ph.D. degrees from the School of Forest Resources. He has published over 50 papers and presentations in peer-reviewed journals and conferences, and holds 5 patent disclosures.

**Gurminder Minhas**
*Performance BioFilaments Inc.*

Gurminder Minhas is a business and technical development specialist, with extensive experience in the biofuels, biochemicals, chemical recycling, and pulp & paper industries. He is well versed in new technology development in the chemical sciences space, as well as growing technologies from lab to pilot scale then on toward commercialization. As Managing Director of Performance BioFilaments, Minhas is responsible for developing commercial opportunities for cellulose filament products in composite and chemical applications. He was the Director of Technology Deployment at Lignol Innovations, a Canadian company commercializing a proprietary biomass to fuels and chemicals technology. There he was responsible for identifying and

developing strategic business-to-business and joint venture relationships with large energy and forestry companies. Prior to joining Lignol, Minhas was Head of R&D for Canfor Pulp Products, where his responsibilities included product development, technology partnerships, technical sales, and marketing within North America and Asia. He holds a B.S. degree in Chemistry from University of British Columbia, and an MBA from Simon Fraser University.

**Hao Zou**
*SINOPEC*

Dr. Hao Zou has worked for SINOPEC for over 10 years. His work focuses on the development of new plastic grades and plastic modification and processing. He is especially interested in applying different methods of manufacturing to the development of new materials. He has previously been involved in developing a new automotive grade of impact-modified polypropylene (PP), and a special resin for high-speed production BOPP. Additionally he has done much work on the crystallization properties for PP, nanocomposite fillers, and polymer modification. He has published 5 articles in English and 4 in Chinese, and has been the main contributor on several patents.

## Opportunities & Challenges with Carbon Composites

**Hiroyuki Hamada**
*Kyoto Institute of Technology*

Professor Hiroyuki Hamada graduated from Doshisha University in Japan with a doctorate in Mechanical Engineering in 1985. He began his professional career at Kyoto Institute of Technology in 1986 and was promoted to Professor in 1998. Since 2015 Hamada has been a Professor in the Future-Applied Conventional Technology Center. His research interests include composite materials, physical properties, polymer and textile materials, structure and functional materials, and mechanics of materials. Hamada has numerous publications and connections worldwide.

**Frazer Barnes**
*ELG Carbon Fibre*

Frazer Barnes has been Managing Director of ELG Carbon Fibre for the last 2 years, where the focus is producing high-quality recycled carbon fiber products that enable cost-effective lightweighting. Prior to that, he worked for Cytec Engineered Materials in the U.K., U.S., and China, and then Hengshen Carbon Fibre in China.

**Marco Bernsdorf**
*Solvay*

Marco Bernsdorf has worked as a Composites Applications Engineer with Solvay (formerly Cytec) since 2012. In this position, he leads a multidisciplinary technical team working with customers on developing high-volume manufacturing applications in Germany. Prior to this position, Bernsdorf was Project Leader at Die Wethje Kunststofftechnik GmbH from 2009-2012 where he worked on serial automotive part production. Before that, he was Team Leader in charge of CFRP tooling and a Part Designer at Becker Carbon GmbH serving motorsport and Formula 1. Bernsdorf received his Diplom-Ingenieur degree in Mechanical Engineering with a specialization in lightweight design from the Technical University of Dresden in Saxony, Germany in 2011.

**Yutaka Yagi**
*Teijin Advanced Composites America Inc.*

Yutaka Yagi graduated with a Master's degree from Doshisha University in Japan in 1998 with a research project on Development of FRP Bicycle Frame using S-RTM. He joined Teijin Ltd. after graduating and worked there for 6 years in the Chemical Process Engineering section and 5 years in the CAE Development section. He next transferred to Teijin's Composites Innovation Center in 2009 to start development on Sereebo. In 2012 he transferred to Teijin Advanced Composites America where he works as an Application Development Manager.

## Sustainable Composites

**Fatimat Bakare-Batula**
*University of Böras*
*2014-2015 SPE ACCE Scholarship Winner*

Dr. Fatimat Bakare-Batula has been a lecturer at Lagos State University, Lagos-Nigeria in the Department of Chemical and Polymer Engineering since 2009, where she earned her B.S. degree in Chemical and Polymer Engineering in 2004. She received an M.S. degree in Industrial and Production Engineering at the University of Ibadan in 2008. Last May she completed a Ph.D. degree in the Polymer Technology group of the Swedish Center for Resource Recovery at the University of Böras in Böras, Sweden. She currently is writing proposals for work on the synthesis of bio-based composites from plant oil as part of a post-doctoral program at the school.

# Speaker Biographies 2016

### Christopher Ellen
*BioAmber Inc.*

Chris Ellen is Vice-President of Sales at BioAmber Inc., headquartered in Montreal, Quebec, Canada. He has 20 years of experience providing technical support, sales, and marketing for specialty chemicals companies — most related to metal surface coatings and machining. He holds a B.S. degree from Western University in Chemistry and Environmental Science.

### Ayse Ademuwagun
*Varroc Lighting Systems*

Ayse Ademuwagun received a Bachelor's degree in Chemistry and a Master's degree in Polymer Technology from Eastern Michigan University. She has 6 years' formulation experience for UV-curable coatings and over 6 years automotive OEM experience. While working at Toyota Technical Center on special-effects coatings, she received a patent on a process for manufacturing a stand-alone multilayer thin film. She also published a Korean patent on developing biobased PP for HVAC application while working at Hyundai America Technical Center Inc. Currently she is working as a Material Engineer at Varroc Lighting System with responsibility for plastics, coatings, and adhesive development for automotive lighting applications.

### Mica DeBolt
*Ford Motor Co.*

Mica DeBolt graduated with a B.S. degree in Biology and Biomedical Science from Grand Valley State University in 2013. She worked for SPI Pharma, a pharmaceutical company, and ALS Laboratory Group, an environmental testing laboratory, before joining the Plastics and Sustainable Materials research group at Ford Motor Co. in January 2015. At Ford she has focused her research efforts on the production of flexible polyurethane foams from non-petroleum feedstocks.

### William Jordan
*Baylor University*

William Jordan is Chair of the Mechanical Engineering Department at Baylor University. He holds B.S. and M.S. degrees in Metallurgical Engineering from the Colorado School of Mines, an M.A. degree in Theology from Denver Seminary, and a Ph.D. degree in Mechanics and Materials from Texas A & M University. He teaches materials-related courses. His current research focuses on the mechanical behavior of natural fiber-reinforced polymeric composites.

### Henning Karbstein
*BASF Corp.*

Henning Karbstein is Manager for New Business Development and Idea Management at BASF's dispersions and pigments business in Charlotte, North Carolina, U.S.A. In the market segments of construction and fiber bonding, architectural and paper coatings and formulation additives, he is responsible for innovative business models with new or existing products and processes. The fiber bonding business includes BASF's low-VOC thermoset and thermoplastic acrylic binders for natural and synthetic non-woven materials, which are used in automotive, industrial, and residential applications. Since Karbstein joined BASF in 2012, he has introduced a prototyping pilot composite line for lightweight fiber composites at BASF's facility in Wyandotte, Michigan. He also is involved in various cross-business unit focus teams for automotive materials, markets and customers. Before joining BASF, Karbstein held various positions in product development, process, and program management at the Schaeffler Group. He was responsible for new product launches with engine components for Porsche and General Motors in Germany, the U.S., and China. He has been named inventor on more than 15 patents for valve-train technology and hydraulic control systems for automotive combustion engines. He also was responsible for lean production and business processes at all sites in North America. Karbstein holds a degree in Mechanical Engineering from the Karlsruhe Institute of Technology in Germany.

### Marc Hayes
*International Automotive Components*

Marc Hayes is an Engineering Director in the Advanced Development & Materials Group at International Automotive Components (IAC) where he is responsible for product and process development for interior trim with a strong focus on lightweight and lamination technologies. This role requires specifying, validating, and implementing the design, process, and tooling requirements for current product, new launches, and future technologies. Hayes joined IAC in 2007 and has led the creation of the prototype / development center in Troy, Michigan, which now has the capability for compression molding, press lamination, vacuum forming, hybrid molding, foaming, and adhesive application systems. Before joining IAC, Hayes held a similar role at Collins & Aikman Corp. for 7 years in the Advanced Development Group and was responsible for launching several new technologies into production, including in-mold appliqué technologies, 2-shot injection molding, and compression molding. Before that, Hayes worked at DaimlerChrysler Corp. in the Product Design & Release Group for instrument panels and consoles.

# USCAR

### Omar Faruque
*Ford Motor Co.*

Dr. Omar Faruque has worked at Ford Motor Co.'s Passive Safety Research and Advanced Engineering for over 26 years. He received his Ph.D. in Civil Engineering from University of Arizona in 1983. Prior to joining Ford in early 1990, he taught engineering at the University of Rhode Island. He has been a member of the Automotive Composites Consortium (ACC) Energy Management Working Group (EMWG) at USCAR since he joined Ford. He has participated directly in many U.S. Department of Energy (DOE) funded carbon fiber-reinforced composites projects to characterize crash behavior of composites and develop physics-based constitutive models to advance crash simulation capabilities. He holds many patents and has published extensively in refereed journals and conference proceedings.

### Praveen Pasupuleti
*ESI Group*

Praveen Reddy Pasupuleti is currently a Composites Modeling Engineer at ESI Group where one of his research activities includes modeling manufacturing processes, evaluating manufacturing-related defects, and mapping those defects to further design evaluation prior to prototyping. He has over 8 years' experience in industry in various roles ranging from metals to composites. Pasupuleti also has a strong background in composites, specializing in design and modeling of manufacturing processes (e.g. resin-transfer molding (RTM), compression RTM, curing & distortion, compression molding, and injection molding) as well as performance (e.g. strength, crash, impact, and noise/vibration/harshness (NVH)). Prior to joining ESI, he was a Blades Process Engineer at Gamesa Wind U.S., an Application Engineer at NEi Nastran, and a Research Engineer at the Center for Composite Materials at University of Delaware. He also did graduate research at University of Kansas, where he earned an M.S. degree in Aerospace Engineering.

### Derek Board
*Ford Motor Co.*

Derek Board has worked at Ford Motor Co.'s Passive Safety Research and Advanced Engineering for 9 years. While at Ford, he designed and released the first commercially available rear inflatable seatbelt, launched 2 new vehicle lines, and serves as a U.S. National Highway Traffic Safety Administration (NHTSA)-certified child passenger safety technician. Prior to Ford, he earned both B.S. and M.S. degrees in Biomedical Engineering from Marquette University in Milwaukee, Wisconsin, U.S.A. — the latter degree in conjunction with the Medical College of Wisconsin (also in Milwaukee). He has numerous patents and publications relating to biomechanics, occupant safety, and vehicle crash dynamics.

### Anthony Coppola
*General Motors Co.*

Dr. Anthony Coppola is a Researcher in the Polymer Composite Systems Group at General Motors Research and Development. He did his undergraduate work at University of Delaware where he received a Bachelor's degree in Mechanical Engineering, graduating *summa cum laude*. He then went on to University of Illinois at Urbana-Champaign where he received his Ph.D. in Aerospace Engineering under the direction of Prof. Scott White in 2015. Coppola has been working in the composites area since his time as an undergraduate student and currently has over 6 years of experience in this field. His interests include multifunctional composite materials and using composites in challenging and novel environments, such as at high temperature or in new automotive applications. He is currently the Co-PI for the Validation of Material Models project, alongside Dr. Omar Faruque. He took over this role from Dr. Libby Berger in 2016.

### Art Cawley
*Dow Automotive*

Arthur "Art" Cawley is a graduate of William Paterson University of New Jersey with a B.S. degree in Chemistry. He has worked for Dow for the past 27 years, all of that time in the automotive industry. He has developed a number of adhesives that are currently being used by OEMs. In his current role as Group Leader with Dow Automotive, he is responsible for Plastic Bonding TS&D. Cawley has won a number of awards including the R&D 100 award for innovation, SPE, PACE, and the Dow Chemical Kramer Award.

### Jeff McHenry
*Shape Corp.*

Jeff McHenry has been an Advanced Manufacturing Engineer in the Advanced Product Development group at Shape Corp. in Grand Haven, Michigan since 2011. There he is responsible for developing internal competency with new processes and materials in plastics and composites for automotive lightweighting. His recent focus has been in thermoplastic continuous fiber composite processing and application development for structural and energy-absorption systems. McHenry received his M.S. degree in Mechanical Engineering from Michigan Technological University in 2005. His prior professional work experience includes 6 years in process and manufacturing engineering in automotive interiors.

**Cameron Dasch**
*Highwood Technology LLC*

Dr. Cameron Dasch received his Bachelor's degrees from Oberlin College and his Ph.D. degree in Physical Chemistry from the University of California at Berkeley. He was a staff scientist at the General Motors R&D Center for over 30 years where he was responsible for the advanced non-destructive evaluation (NDE) development effort. He is now the Director of Highwood Technology LLC primarily working with USCAR on NDE of lightweight materials for automotive applications. He has been a keynote speaker at various NDE conferences and holds a variety of patents ranging from processing of carbon composites to the NDE of automotive materials.

# Virtual Prototyping & Testing of Composites

**Paul Van Huffel**
*Altair Engineering*

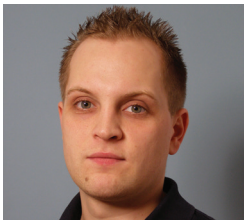
Paul Van Huffel is currently an Applications & Support Engineer at Altair Engineering. He has 24 years' experience in the plastics industry — 15 of them in simulation and another 4 in project and manufacturing engineering. He has worked with and supported simulation for injection molding, stamping/forming, extrusion, composites, mechanical events (e.g. finite element), and computational fluid dynamics. He has been an SPE member since 1995 and is a Ferris State University graduate.

**William Rodgers**
*General Motors Co.*

Will Rodgers is currently a Technical Fellow in the Chemical and Materials Systems Laboratory at the General Motors Research & Development Center. He began his GM career in 1984 in the Polymers Department of the GM Research and Development Laboratories. During his career, Rodgers has investigated a number of topics including the development of coatings for corrosion protection of rare earth element magnets, the improvement of the performance of thermoplastic olefin materials, and the development of nanocomposite materials for which he won several industry awards. Rogers is currently involved in the development and application of long fiber-reinforced thermoplastic materials. He holds a Bachelor's degree in Chemistry from Millersville State University. He then continued his studies with Dr. Alan Gent at the University of Akron investigating Mechanochemical Reactions of Elastomers with Metals and received his doctorate in 1984.

**Chris Boise**
*Baylor University*
*2015-2016 ACCE scholarship winner*

Christopher Boise graduated *magna cum laude* from Baylor University in 2014 with a B.S. degree in Mechanical Engineering and a minor in Mathematics. He is currently one year into his Master's studies in Mechanical Engineering at Baylor where he has been studying property predictions of woven-fabric composite materials using analytic and finite element methods. Upon graduating, he hopes to bring this research into the aerospace and automotive industries, where composite materials are becoming more common, in order to design safer, more energy-efficient transportation.



**Benedikt Fengler**
*Karlsruhe Institute of Technology*

Benedikt Fengler earned a B.S. degree in 2011 in Product Development at the University of Applied Science Mannheim. The following year he earned an M.S. degree in Optimization and Vehicle System Technology at the school. Since 2013, he has worked as a Research Assistant at Karlsruhe Institute of Technology in the school's Institute of Vehicle System Technology – Lightweight Technology.

**Michael Doyle**
*Dassault Systèmes*

Dr. Michael Doyle has been Director of Corporate & Business Development for Dassault Systèmes' BIOVIA product since 2014. Previously he worked as Senior Director of Corporate Development at Accelrys from 2013 to 204, and was Director of Marketing at the company from 2011-2013, Principal Scientist there from 2002-2011, and Director - Business Development Materials Informatics from 2001-2002. From 1997-2001 he worked at Molecular Simulations as Director - Formulations Consortium, and was Manager - Materials Application Science at the company from 1993-1997 and Manager - Technical Support there from 1992-1993. Before joining Molecular Simulations, Doyle worked as a Team Leader and Senior Computational Chemist at the research center for British Petroleum (BP). From 1988-1989, while a senior graduate student, he worked as a Computational Research Scientist at ICI's AgroChemicals unit. Doyle holds a B.A. and M.A. in Natural Sciences and Biochemistry from Cambridge University in the U.K. His doctoral thesis at the university was on Application of Crystallographic Data to Chemistry and Molecular Modeling.

# Speaker Biographies 2016

## Andy MacKrell

*MultiMechanics*

Andy MacKrell is Head of Product Development at MultiMechanics. He has 10 years' experience in industry as a systems analyst, software architect, and project manager and has a diverse track record of leading mission-critical technical initiatives for several Fortune 100 companies. Since joining MultiMechanics in 2014, MacKrell has led the successful effort to integrate the company's microstructural solver within Abaqus and Ansys - making MultiMechanics the only company to embed a fully parallelized 3D FE solver within an existing CAE platform. MacKrell graduated from the University of Notre Dame with a degree in Mechanical Engineering.

## Tod Dalrymple

*Dassault Systèmes*

Tod Dalrymple has worked in the field of nonlinear finite-element analysis for over 20 years, and has held many positions within the SIMULIA organization. He has worked as the Engineering Services Manager and later the General Manager of the Great Lakes office in the U.S., and now is working for the SIMULIA R&D organization focusing attention on how to deliver advanced material-modeling technology to customers.

## Don Robbins

*Autodesk, Inc.*

Don Robbins is currently a Distinguished Research Engineer with Autodesk, Inc. He holds a Ph.D. from Virginia Tech, and his research interests focus on the development of multiscale and adaptive finite-element methods for simulating progressive damage in composite structures. Prior to his current position at Autodesk, Robbins served for 6 years as the Chief Engineer for Firehole Composites, 6 years as an Assistant Professor in the Mechanical Engineering Dept. at the University of Maryland, and 6 years as a Senior Engineer for Michelin Tire Corp.

## Donald Baird

*Virginia Polytechnic Institute and State University*

Donald G. Baird received his B.S. (in Chemical and Materials Engineering) and M.S. (in Materials Engineering) degrees from Michigan State University (MSU) and his Ph.D. (in Mechanics) from the University of Wisconsin-Madison. (At MSU he received All Big Ten honors, All Big Ten Academic honors, and Academic All American Honors in football.) From 1974 to 1978 he worked for Monsanto in the area of high-performance fibers. In 1978 he joined the faculty of Virginia Tech where he is presently the Alexander F. Giacco Professor of Chemical Engineering. He has won several awards, including the International Award for Education (2002), the International Award for Research (2003), and the International Award (2009) all from the Society of Plastics Engineers. Also, he recently received the Jack Breslin Award from the MSU Varsity Alumni. He is the primary author of a textbook entitled Polymer Processing: Principles and Design (John Wiley and Sons). His research centers on the application of non-Newtonian fluid mechanics to the processing of polymers and polymer composites.

## Dustin Souza

*e-Xstream engineering*

Dustin Souza is currently an Application Engineer at e-Xstream engineering/ MSC Software where he supports North American customers of the firm's Digimat software and other FEA products as well as does modeling and simulation work to predict the behaviors of composite materials. Before joining e-Xstream in 2013, Souza worked as an Associate Inside Sales Representative for MSC Software. Between 2012 and 2013, he was a Research Assistant in the Mechanical Engineering Department at Purdue University where he wrote a program that simulates short-fiber composite systems and worked under Professors Byron Pipes and Thomas Siegmund. The year previous he worked in Purdue's Aeronautics and Astronautics Engineering Department under Dr. Pipes helping develop a composites nanohub site encompassing all composites simulation programs. Souza also wrote manuals and papers on software for different aspects of composites manufacturing, testing, and analysis. And from 2011-2012, he worked as a Lab Inventory Assistant in Purdue's Pharmacy Department. He holds B.S. and M.S. degrees in Aeronautical Engineering from Purdue University.

## Sebastian Goris

*University of Wisconsin-Madison*

*2014-2015 ACCE scholarship winner*

Originally from Germany, Sebastian Goris is working on his doctorate degree in Mechanical Engineering at the University of Wisconsin-Madison. He previously earned a B.S. degree from the Department of Mechanical Engineering at RWTH Aachen University in Germany. While completing his undergraduate degree, he focused on polymer processing and worked as an undergraduate research assistant at the Institute of Plastics Processing (IKV) at Aachen University. He currently works as a graduate research assistant at the Polymer Engineering Center under Prof. Osswald. Goris' research focus mainly lies in the field of composites including modeling and simulation of composite processing, measuring fiber properties, and analyzing the microstructure of fiber-reinforced plastic parts.

# Keynote Speakers & Panel Members

### Dr. Craig Blue

*Institute for Advanced Composites Manufacturing Innovation (IACMI)*

Dr. Craig Blue is Program Director for Advanced Manufacturing at Oak Ridge National Laboratory (ORNL). A recognized leader and champion of applied research and development at ORNL, Blue holds faculty appointments at the University of Tennessee, University of North Texas, and the Colorado School of Mines. His vision and comprehensive understanding of advanced manufacturing technologies led to creation of the U.S. Department of Energy's (DOE) Manufacturing Demonstration Facility (MDF) at ORNL, which he currently directs as part of a $42-million USD portfolio of research sponsored by DOE. Blue led the proposal to establish IACMI, the newest addition to the National Network of Manufacturing Innovation, a White House initiative to help U.S. manufacturers employ leading-edge technology to become more competitive. He has assumed duties as the CEO of this new institute. As Distinguished Research Scientist and Group Leader he was responsible for revitalizing and building of ORNL's materials processing activities to national prominence. While Deputy Director for the Materials Science and Technology Division, a $100-million USD materials research division, he was responsible for driving the development of new applied programs. During nearly 20 years of experience in conducting research in materials and manufacturing technologies, Blue has authored nearly 100 open literature publications, been awarded 15 patents, and 10 *R&D 100* Awards. He has served by invitation on numerous scientific and technical review panels, committees, and convocations convened by the National Science Foundation and National Academies of Sciences and Engineering. He has been honored by selection as ORNL Distinguished Engineer in 2003 and as Fellow of ASM International in 2009.

### Rick Neff

*Cincinnati Inc.*

Rick Neff is the BAAM Sales Manager at Cincinnati Incorporated, manufacturer of 3D printers, press brakes, shears, lasers, material handling, powdered metal presses, and software. There, he is responsible for marketing, selling, and development collaboration of BAAM (Big Area Additive Manufacturing) 3D printers. He holds a B.S. degree in Mechanical Engineering from Lehigh University and has worked for three Fortune 500 companies in sales and marketing of aerospace components and capital equipment. His interests are in additive manufacturing, laser technology, and manufacturing innovation. He is an active member of the Society of Manufacturing Engineers (SME), the Fabricators & Manufacturers Association International (FMA), and the Laser Institute of America (LIA) in order to promote technology and its application to manufacturing challenges.

### Rich Fields

*Lockheed Martin Missiles and Fire Control*

Rich Fields is Mechanical Engineering (ME) Senior Manager and Orlando Site Lead for ME at Lockheed Martin Missiles and Fire Control. He received his B.S. degree in Engineering Mechanics (1978) at Missouri University of Science and Technology and his M.S. degree in Engineering Mechanics (1982) from Virginia Tech, and has been with Lockheed Martin Missiles and Fire Control for the past 34 years. Fields' career has focused on selection and maturation of advanced structural material systems and their introduction into product development. His special focus has been on advanced polymer matrix composites, but he also has worked on advanced metals, discontinuous metal matrix composites, and — more recently — additively manufactured material systems. His areas of expertise include structural analysis, material and structural testing and test methods, test data development, structural substantiation, and test/analysis correlation. Fields' product experience includes key development tenures as IPT Lead for F-35 Lightning II Electro-Optical Targeting System (EOTS) Window and Navy Structures IPT Lead for the Joint Air-to-Surface Standoff Missile (JASSM). He has been a major author and editor of composite testing standards for ASTM Committee D30 on Composite Materials, a significant contributor to Volume 1 of the Composite Materials Handbook (CMH-17), and is the original editor and primary author for the LMMFC Engineering Practices Manual for Composites. He was selected as an Emeritus member, LM MFC Group Technical Staff (Composite Structures), and is a Fellow of ASTM. He was Chair of ASTM International Committee D30 on Composite Materials (2002-2007), Co-Chair of CMH-17 PMC Testing Working Group (1991-2007), Vice-Chair of SAE AMS Committee P17 on Composite Materials (2001-2007) and a former U.S. Delegate to ISO TC61 for advanced composites. In 2007 he received the W.W. Stinchcomb Award from ASTM D30, the highest honor of that committee.

**Ove Schuett,**
*Dassault Systèmes*

Since 2015, Ove Schuett has been Vice President of the Transportation & Mobility, Industrial Equipment business unit at Dassault Systèmes where he is responsible for leading all activities related to these industries in North America. Schuett began his career with Dassault through DELMIA in 2001 where he started as Director for the Automotive Business Unit. After that, he was appointed Vice-President of North American Sales for the brand in 2002. In 2006, he became Vice-President of Sales for Dassault Systèmes US, and later was appointed VP for the CATIA Brand in 2009. Previous to this, Schuett was with EAI where he held the position of Executive Director for 4 years. Before that he held several different positions in sales and marketing both in Europe and the U.S. at Schlumberger's CAD/CAM Division (Applicon). And prior to this, Schuett was the Professional Services Manager for Control Data in Germany where his main responsibility was implementing CAD and PDM at Volkswagen. Schuett earned a Master's degree in Computer Science from the Technical University in Hamburg, Germany.

**James Staargaard**
*Plasan Carbon Composites*

James Staargaard is the President, CEO, a board member of Plasan Carbon Composites (PCC), the Automotive Business subsidiary of Plasan Sasa (Global Armor and Survivability Solutions). Prior to his current position, Staargaard was President of Helios Coatings, Vice-President and General Manager of Excel Polymers, and held a series of commercial leadership roles with GE Plastics after starting his career at Union Carbide. He holds an M.B.A. degree from the Ross School of Business at the University of Michigan and a Bachelor's degree in Polymer Science from Pennsylvania State University. He also is a member of SAE and SPE. PCC is the leading tier one supplier of Class A carbon fiber composite solutions for the North American automotive Industry, shipping over 400 carbon composite assemblies per day. These include hoods, roofs, rockers, and splitters for the current *Corvette Stingray* based on PCC's proprietary pressure press technology, as well as 3 major exterior components for the *SRT Viper*.